

SOUTH-CENTRAL AND SOUTHERN CALIFORNIA STEELHEAD ESU RECOVERY PLAN - THREATS ASSESSMENT

WORKBOOK SHEET 1 - ASSESSMENT OF LIFE HISTORY VIABILITY

County and Stream or Stream Reach (be specific):

Life History Stage	Key Attribute	Indicator	Indicator Ranking				Existing Conditions
			Poor	Fair	Good	Very Good	
Egg	Fluvial processes	Mean monthly discharge during incubation period	> 0.9 m/sec	0.6-0.9m/sec	0.3-0.6m/sec	<0.3 m/sec	
Egg	Fluvial processes	Depth to groundwater	?	?	?	?	
Egg	Fluvial processes	Median particle size at redd sites	< 10 mm		> 25 mm		
Egg	Fluvial processes	Embeddedness in potential spawning habitat	> 30%	26-30%	20-25%	< 20%	
Egg	Fluvial processes	% fines (< 1mm) in potential redd habitat/spawning areas	>20%	15-20%	10-14.9%	< 10%	
Egg	Fluvial processes	Scour frequency (bankfull discharge) during incubation period	every yr	every 3 yrs	every 5 yrs	> 5 yrs	
Egg	Water quality	Mean monthly water temperature in potential spawning areas	< 5C & > 13C	> 11C	> 10C	6-10C	
Egg	Water quality	pH in redd habitat during incubation period	<6.5 & > 8.5	?	?	7.00-7.25	
Egg	Water quality	Mean dissolved oxygen (DO) in potential spawning areas	< 3 mg/l	3-7 mg/l	7.1-9 mg/l	> 9 mg/l	
Egg	Water quality	Bio-oxygen demand in potential spawning areas	?	?	?	?	
Egg	Water quality	Total dissolved solids (TDS) concentrations in rearing habitat	?	?	?	?	
Egg	Non-native species	Non-native egg predators	present			absent	
Fry	Migratory corridors	Migration barriers between redds and rearing habitat	permanent	seasonal		none	
Fry	Food availability	Macroinvertebrate species richness in potential rearing habitat	< 25 taxa	25-29 taxa	30-40 taxa	> 40 taxa	
Fry	Fluvial processes	Mean monthly discharge during rearing period	> 0.9 m/sec	0.6-0.9m/sec	0.3-0.6m/sec	<0.3 m/sec	
Fry	Fluvial processes	Depth to groundwater	?	?	?	?	
Fry	Fluvial processes	% sand in potential rearing habitat	< 20%	20-25%	26-30%	> 30 %	
Fry	Fluvial processes	Embeddedness in potential rearing habitat	> 30%	26-30%	20-25%	< 20%	
Fry	Water quality	Turbidity in potential rearing habitat	0 ntu	1-10 ntu	11-24 ntu	> 25 ntu	
Fry	Water quality	Mean monthly water temperature in potential rearing habitat	> 13C	11-13C	10-11C	6-10C	
Fry	Water quality	pH in rearing habitat	<6.5 & > 8.5	?	?	7.00-7.25	
Fry	Water quality	Mean monthly dissolved oxygen (DO) in potential rearing habitat	< 3 mg/l	3.1-4 mg/l	4.1-8 mg/l	> 8 mg/l	
Fry	Water quality	Bio-oxygen demand in potential rearing habitat	?	?	?	?	
Fry	Water quality	Total dissolved solids (TDS) concentrations in rearing habitat	?	?	?	?	
Fry	Riparian/Instream cover	Distribution and abundance of instream cover	low	medium	high	very high	
Fry	Riparian/Instream cover	Distribution and abundance of edgewater habitat	low	medium	high	very high	
Fry	Non-native species	Presence/density of non-native aquatic predators	present			absent	
Juvenile	Migratory corridors	Migration barriers between rearing habitats and estuary	present	seasonal		absent	
Juvenile	Food availability	Macroinvertebrate species richness in potential rearing habitat	< 25 taxa	25-29 taxa	30-40 taxa	> 40 taxa	
Juvenile	Fluvial processes	Mean monthly base flows during rearing period	no flow		> 1 cfs		
Juvenile	Fluvial processes	Depth to groundwater	?	?	?	?	
Juvenile	Fluvial processes	Embeddedness in rearing habitat	> 30%	26-30%	20-25%	< 20%	

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Juvenile	Fluvial processes	Distribution and abundance of pools	none	few	many	abundant	
Juvenile	Fluvial processes	Distribution and abundance of riffle habitat	none	few	many	abundant	
Juvenile	Fluvial processes	Pool depth	< 3 ft			> 3 ft	
Juvenile	Water quality	Mean monthly pH	?	?	?	?	
Juvenile	Water quality	Mean monthly dissolved oxygen (DO) during rearing period	< 3 mg/l	3.1-4 mg/l	4.1-8 mg/l	> 8 mg/l	
Juvenile	Water quality	Turbidity in summer rearing habitat	0 ntu	1-10 ntu	11-24 ntu	> 25 ntu	
Juvenile	Water quality	Mean monthly water temperature in potential rearing habitat	> 17C	16-17C	15-16C	10-15C	
Juvenile	Water quality	Total dissolved solids (TDS) concentration in rearing habitat	?	?	?	?	
Juvenile	Riparian/Instream cover	Distribution and abundance of instream cover	low	medium	high	very high	
Juvenile	Riparian/Instream cover	Width of riparian corridor	absent	10-50 ft	50-100 ft	> 100 ft	
Smolt	Migratory corridors	Migration barriers to estuary and/or ocean	present	seasonal		none	
Smolt	Food availability	Macroinvertebrate species richness in rearing habitat	< 25 taxa	25-29 taxa	30-40 taxa	> 40 taxa	
Smolt	Fluvial processes	Mean monthly base flows during smolt phase	no flow			> 0.15m/sec	
Smolt	Fluvial processes	Depth to groundwater	?	?	?	?	
Smolt	Fluvial processes	Distribution and abundance of pools	none	few	many	abundant	
Smolt	Fluvial processes	Pool depth	< 3 ft			> 3 ft	
Smolt	Fluvial processes	Presence/absence and size of estuary or lagoon	absent	degraded, small		present, lg	
Smolt	Water quality	Mean monthly pH	?	?	?	?	
Smolt	Water quality	Mean monthly dissolved oxygen (DO) in rearing habitat	?	?	?	?	
Smolt	Water quality	Turbidity in rearing habitat	0 ntu	1-10 ntu	11-24 ntu	> 25 ntu	
Smolt	Water quality	Mean monthly water temperature in potential rearing habitat	> 16C	15-16C	13-14C	8-13C	
Smolt	Riparian/Instream cover	Distribution and abundance of instream cover	low	medium	high	very high	
Adult	Migratory corridors	Migration barriers	present	seasonal		none	
Adult	Food availability	Macroinvertebrate species richness (for residualized fish)	< 25 taxa	25-29 taxa	30-40 taxa	> 40 taxa	
Adult	Fluvial processes	Mean monthly base flows during migration	?	?	?	?	
Adult	Fluvial processes	Depth to groundwater	?	?	?	?	
Adult	Fluvial processes	Distribution and abundance of pools	none	few	many	abundant	
Adult	Fluvial processes	Pool depth	< 3 ft			> 3 ft	
Adult	Water quality	Mean monthly pH	?	?	?	?	
Adult	Water quality	Mean monthly dissolved oxygen (DO)	?	?	?	?	
Adult	Water quality	Turbidity	0 ntu	1-10 ntu	11-24 ntu	> 25 ntu	
Adult	Water quality	Mean monthly water temperature during spawning phase	> 16C	15-16C	13-15C	10-13C	
Adult	Riparian/Instream cover	Distribution and abundance of instream cover	low	medium	high	very high	
Adult	Population	Anadromous run size	< 5 adults			>50 adults	